

Argentina's Corn: Productivity Gains Underlie Strong Export Performance

by Chris de Brey¹

Abstract: Argentine corn production for 1996/97 is expected to be record high, boosted by strong world prices. Increased use of technology and inputs in past years, led by fertilizers, is expected to continue. A more neutral farm policy should also help keep Argentina as the world's second largest corn exporter. The spread of a disease to wider corn areas casts some doubt on this year's production.

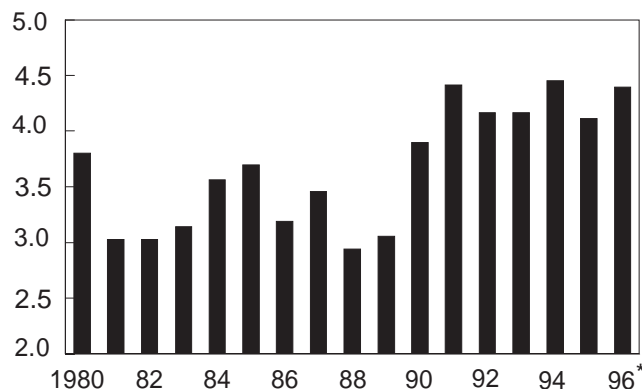
Keywords: Argentina, corn, input use, Rio Cuarto disease.

Argentina's corn production for 1996/97 (corresponding to Argentine marketing year March 1997/February 1998) is expected to be a record 14.5 million tons. Plantings were the largest since 1985 in response to high world prices. Good weather and the increased adoption of technology are expected to produce close to record yields.

Corn exports for 1996/97 are expected to reach 8.8 million tons, the second highest ever, based on record output prospects. Destinations continue to be quite diversified with shipments to over 50 countries, Iran being the largest purchaser during calendar year 1996, followed by Malaysia, Venezuela, and Korea. Brazil, the largest Argentine corn buyer in calendar 1995, took less corn in 1996, drawing down domestic stocks instead. Argentine corn export prices were below U.S. export prices for most of the year, making Argentine corn competitive in most markets.

Figure C-1
Argentine Corn Yields

Metric tons/hectare



* Preliminary

Domestic Use Remains Relatively Low

Domestic demand for corn in 1996/97 is expected to recover to 5.5 million tons from the previous year's low level. Lower corn prices this year, coupled with rises in income, are expected to produce a rebound in poultry output, the largest domestic corn consumer. Grain feeding of beef cattle is still in embryonic stage, with its evolution strongly tied to beef/corn price ratios. Projected price ratios are not expected to result in significant increases in beef cattle feeding in the foreseeable future, with grass-fed continuing to be the dominant low-cost alternative.

Input Use Has Expanded Rapidly in Recent Years, Driving Up Yields

Technology adoption in the corn sector has evolved at a brisk pace the last few years. Fertilizer use (mostly imported) this year is reported on more than 50 percent of the corn area, and overall use has doubled since 1994. Fertilizer consumption would have been even greater if grain prices had not fallen after mid-1996, likely causing farmers to reduce expected application rates. The positive outlook for fertilizer consumption has prompted plans for the construction of two local nitrogen fertilizer plants based on natural gas. Use of agricultural chemicals (herbicides and fungicides, also mostly imported) has likewise increased, more than doubling from 1991 to 1996.

Farm equipment sales, including on-farm grain storage bins, have also reached new highs. Irrigation equipment, used for complementary irrigation on existing corn land and once only seen on more progressive large farms, has become relatively more common, although it still accounts for a small proportion of area. More than 300 center-pivot systems irrigate over 20,000 hectares, mostly for corn. Reduced import duties on capital goods, easier credit terms, and long-term leasing arrangements have improved prospects for input use. U.S. seed companies have changed the domestic seed profile from mostly flint corn hybrids to the higher yielding dent hybrids. Minimum and no-till practices to conserve soil moisture have become increasingly popular.

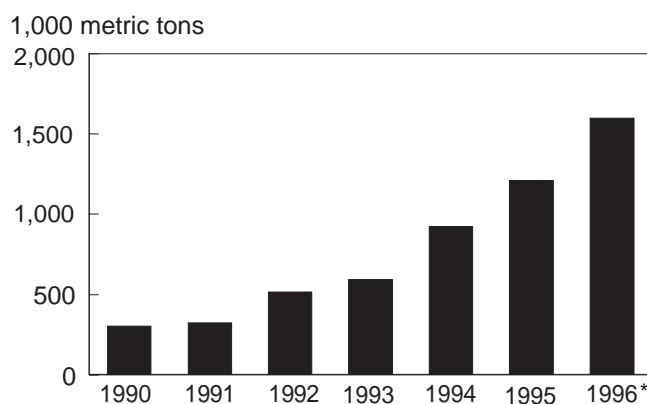
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One potential area of concern is the spread of a disease, Rio Cuarto, named after the city and county in South Cordoba province where it was first detected in the 1960s. The causal virus is carried by a leafhopper, and for the first time has spread by varying degrees to all major corn producing areas, including the central corn belt of North Buenos Aires and South Santa Fe, apparently favored by mild weather conditions. The disease can have potentially devastating effects on yields, so much that it is considered the most important disease currently facing corn production. Although there is no current plant-bred resistance to the disease, some hybrids show greater degrees of tolerance. At this stage, it is impossible to know the full impact of the disease on 1996/97 production.

Longer term projections indicate Argentine corn output to reach 16 million tons by 2005, mostly on the premise of continued increases in yields. Area is not expected to increase sharply, given increased competition from other crops, mainly soybeans and sunflower, and to some extent wheat. Greater input use will increase yields and push corn exports to close to 10 million tons by 2005, keeping Argentina the world's second largest corn exporter. Anticipated relatively high crop prices and the maintenance of a more neutral farm policy (as opposed to a previous anti-farm bias via export taxes and other farm income-reducing tools) are likely to push overall crop area to new highs. However, corn area is not expected to reach the more recent high levels of the late 1960s and early 1970s, before soybeans emerged as a major crop. The bulk of crop area increase is likely to come from area currently used to graze cattle. Cattle pastures are rotated with crops in the major production areas of the pampas. The introduction of new land for corn production is unlikely, given the high costs involved to bring such lands into productive use.

Figure C-2

Argentine Fertilizer Consumption



* Preliminary

Source: IASCAV, Argentina

Policy Changes Have Been Favorable for Agriculture

The Argentine economy underwent some profound reforms starting in 1989, that included deregulation, decentralization, and privatization, in an effort to control chronic public sector deficits. In 1991, the Convertibility plan establishing a quasi-currency board was introduced. The plan pegged the domestic peso to the dollar and set severe constraints on the discretionary power of the monetary authority, thus ending hyperinflationary pressures that plagued Argentina for over a decade. Unilateral market liberalization was complemented with the full establishment of the Mercosur customs union in 1995 with neighboring Brazil, Uruguay, and Paraguay, and further-reaching free trade agreements between Mercosur and Chile and Bolivia. Argentina's position as the prevailing temperate-agriculture supplier for the region, particularly the large Brazilian market, appears strengthened.

The current administration has gone a long way in correcting some of the chronic weaknesses affecting Argentine agriculture's competitiveness, adopting a more free-market approach. Export taxes on most agricultural products have been eliminated (bovine raw hides and oilseeds exports are still taxed to favor local processing), including the 1.5-percent tax to fund agricultural research. In the past, periods of high prices were almost invariably followed by increases in export taxes or other tools to 'extract' a proportionate segment from farm incomes. The major state-owned marketing boards for grains, meats, and sugar have been scrapped. Privatization of export facilities has reduced port handling costs. Dredging of the shallow Parana river to enable access to upriver ports by larger ships and barges should further help reduce shipping costs. Privatization of railroads has also begun to help curtail high domestic transportation costs.

Corn Sector Likely To Remain Competitive

Argentine agriculture, including corn, stands to gain from strong world grain prices, the maintenance of a more neutral farm policy, and increased regional integration. Argentina is expected to remain a significant competitor in world corn markets. Its traditional low costs of production, based on low input use, are evolving to a situation more prevalent in the United States. Although the transition to a high-input technology carries some downside risk in case of declining grain prices or adverse weather in the absence of a 'safety net' system, the potential for considerable yield increases in a more deregulated global policy environment is expected to generally maintain Argentine agriculture's competitive position.